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# A LITERATURE REVIEW ON SICK LEAVE DETERMINANTS (1984–2004)

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## Abstract

**Objectives:** A literature review for the years 1984–2004 was performed to identify the determinants of the sick leave frequency and duration over that period and to establish the continuity in the character of those determinants. **Materials and Methods:** The review referred to national and international studies on the determinants of the frequency and duration of sick leave. **Results:** The review presented a highly consistent picture of the factors determining sick leave frequency and duration. **Conclusion:** Over the study period, the frequency and duration of sick leave were determined by a broad range of factors, a substantial number of which had a similar influence on both the study parameters.

## Key words:

Literature review, Determinants of sick leave frequency, Determinants of sick leave duration

## INTRODUCTION

The sickness absence is associated with numerous factors determining the frequency and duration of sick leave. Over the last several years, extensive research has been performed to precisely define the character of these determinants. The assumption is that, in general, during the period of 1984–2008, the character of sick leave determinants did not change substantially. Therefore, the aim of the present literature review was to identify relevant factors determining the sick leave frequency and duration over that period. The research question was: Which determinants of the sick leave frequency and duration are significant according to literature reports published in 1984–2004?

The sick-leave frequency is a measure of sickness absenteeism which generally shows a fairly strong relationship with the factor of motivation. The sick leave duration, apart from being connected with motivation, is also

strongly related to the factors referring to the seriousness of the illness. In view of the different character of sick leave frequency and duration, we considered them separately. The sick leave frequency indicates the number of sickness spells an employee takes a year, while the sick leave duration indicates the mean number of days a year per a sickness spell.

The literature review we performed was focused on sick leave determinants that were general rather than specific in nature. For instance, the character of air pollution in workplace was not specified in terms of the chemicals that might be responsible. Also, with regard to the level of education, no distinction was made between different types of school of the same level. Apart from this, the review concerned general tendencies in research on the sick leave frequency and duration. In other words, the study is meant as a broad review on sick leave determinants rather than a systematic review. The present review takes into account that the contradictory findings reported in

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literature may be related to the socio-economic and cultural differences between the countries with different social security systems.

## MATERIALS AND METHODS

To identify the relevant determinants of sick leave frequency and duration, we searched through (inter)national scientific journals and academic theses as well as the Medline database. In accordance with the research subjects commonly reported in (inter)national literature, we focused on the following categories of determinants of the sick leave frequency and duration: work characteristics (working conditions, work contents, working relations and work circumstances), health characteristics (perceived workload and health complaints), motivation, and individual characteristics and circumstances. Therefore, apart from searching the sources of data by the following keywords: sickness absence, sickness spells, sickness duration, sick leave, sick leave frequency and sick leave duration, we also considered the keywords relating to the work characteristics and those referring to lifestyle, such as smoking and drinking, or to individual characteristics and circumstances, like age, gender, marital status and level of education. The keywords for the health characteristics included medical consumption (more specified: visits to the family doctor and drug use), health complaints and perceived physical and mental health and perceived physical and mental workload. The assumed specific direction of the effect of the determinants of sick leave frequency and duration was also investigated.

## RESULTS

The sick leave is associated with numerous determinants, and over the years, extensive research has been performed both nationally [1–7] and internationally [8–9] to establish the precise character of those determinants [10–21].

The studies on sick leave often distinguish between the sick leave frequency and sick leave duration. Therefore, we have considered the determinants that:

- generate sick-leave (frequency),
- contribute to the continuation or termination of sick leave (duration).

### Determinants of sick leave frequency

The number of sickness spells an employee takes a year is influenced by the attitude towards absenteeism, by individual characteristics and motivation, and by the relation between health and working conditions or working relations.

Generally, the determinants that play an important role in generating sick leave (frequency) are the determinants of personal well-being [6,22–25], of individual factors [2,4,18,23,26–30] and of the atmosphere at the workplace [2,11–12,15–18,31–35].

Apart from the influence of the psychosocial factors [6,11,19,36], an evident relationship was found between a high frequency of sick leave and education or the level of functioning [37–38]. Further, the sick leave frequency was higher in the case of changes in private life and spending much time on housekeeping [37,39–40]. The determinants of sick leave related to the work characteristics, are categorized as ‘working conditions’, ‘work contents’, ‘working relations’ and ‘work circumstances’. Figure 1 summarizes the results of the literature review of the determinants having influence on the sick leave frequency. The direction of the effect of the determinants is displayed in Table 1.

### Determinants of sick leave duration

According to Schröer [26], the differences in sick leave duration are related to gender, age, level of education, marital status, number of children and the strains of private life. The same author also found that the individual’s sickness record, perceived health, mental and psychosomatic complaints, physical limitations and lifestyle are the determinants that increase sick leave duration; the same applies to consulting medical doctors.

Sick leave duration depends on such determinants as the way the employers deal with sick employees and with the reintegration activities [80–84] as well as the motivation to return to work [5,85–87] and the organization

**Table 1.** Selected determinants of sick leave frequency and duration, and direction of effect

Independent determinants	Effect on: frequency <sup>1</sup>	Effect on: duration <sup>2</sup>
<b>Working conditions</b>		
Appreciation of one's work ( <i>sum</i> )	high is more → lower	high is more → shorter
Expectations for the future ( <i>sum</i> )	high is better → lower	high is better → shorter
Satisfied with one's work ( <i>yes = 1/no = 0</i> )	high is more → lower	high is more → shorter
Positive about social-medical support during sick leave ( <i>yes = 1/no = 0</i> )	high is more positive: indifferent <sup>3</sup>	high is more positive: indifferent
Type of appointment ( <i>permanent = 1/temporarily = 0</i> )	indifferent	indifferent
<b>Work contents</b>		
Autonomy ( <i>sum</i> )	high is more → lower	high is more → shorter
Workload (more work, same period of time) ( <i>yes = 1/no = 0</i> )	high is more → higher	high is more → longer
Mental workload ( <i>yes = 1/no = 0</i> )	heavier → higher	heavier → longer
Match between work and level of education ( <i>yes = 1/no = 0</i> )	high is better → lower	high is better → shorter
<b>Working relations</b>		
Opinion about supervisors ( <i>sum</i> )	high is more positive → lower	high is more positive → shorter
Managers are well informed about the workplace ( <i>yes = 1/no = 0</i> )	high is better → lower	high is better → shorter
Good atmosphere at the workplace ( <i>yes = 1/no = 0</i> )	high is better → lower	high is better → shorter
<b>Work circumstances</b>		
Pollution at the workplace	more pollution → higher	more pollution → longer
Air climate / pollution	bad air climate / more pollution → higher	bad air climate / more pollution → longer
<b>Health status (perceived workload):</b>		
Perceived physical workload ( <i>sum</i> )	high is more → higher	high is more → longer
Perceived mental workload ( <i>sum</i> )	high is more → higher	high is more → longer
<b>Health status (health complaints):</b>		
Questions about perceived health ( <i>sum</i> )	high is more perception of poor health → higher	high is more perception of poor health → longer
Mental balance ( <i>sum</i> )	high is more out of balance → higher	high is more out of balance → longer
Burnout due to work ( <i>sum</i> )	high is more severe → higher	high is more severe → longer
Annual number of visits (family doctor)	more is poorer health → higher	more is poorer health → longer
Frequently taking medicines ( <i>yes = 1/no = 0</i> )	more is poorer health → higher	more is poorer health → longer
<b>Motivation</b>		
Work-related factors ( <i>yes = 1/no = 0</i> )	high is more pleasure in work → lower	high is more pleasure in work → shorter
Home-related factors ( <i>sum</i> )	high is less motivated for work → higher	high is less motivated for work → longer
<b>Individual characteristics and circumstances</b>		
<b>Age</b>	older → lower	older → longer
Gender ( <i>w = 1/m = 0</i> )	female → higher	female → longer
Marital status ( <i>married = 1/not married = 0</i> )	married → lower	married → shorter
Satisfied with private circumstances ( <i>yes = 1/no = 0</i> )	more → lower	more → shorter
Level of education ( <i>high = 1, low, vocational school level = 0</i> )	high → lower	high → shorter
Alcohol consumption ( <i>yes = 1, no = 0</i> )	drinking → higher	drinking → longer
Smoking ( <i>yes = 1, no = 0</i> )	smoking → higher	smoking → longer

<sup>1</sup> Based on the literature review performed: the assumed effect on the frequency of sick leave (lower = lower frequency of sick leave; higher = higher frequency of sick leave).

<sup>2</sup> Based on the literature review performed: the assumed effect on the duration of sick leave (shorter = shorter duration of sick leave; longer = longer duration of sick leave).

<sup>3</sup> Indifferent: literature is scarce or ambiguous.

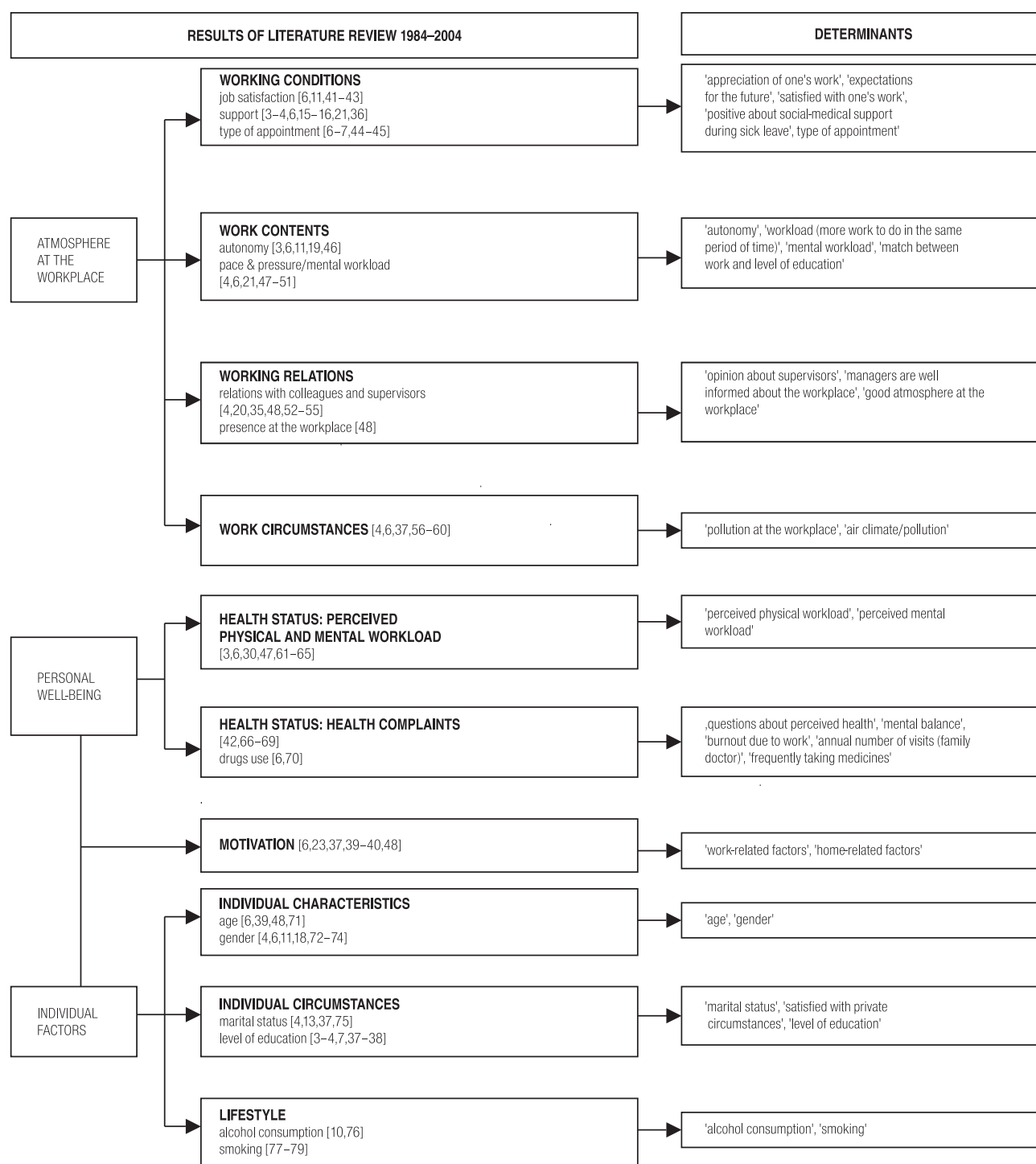
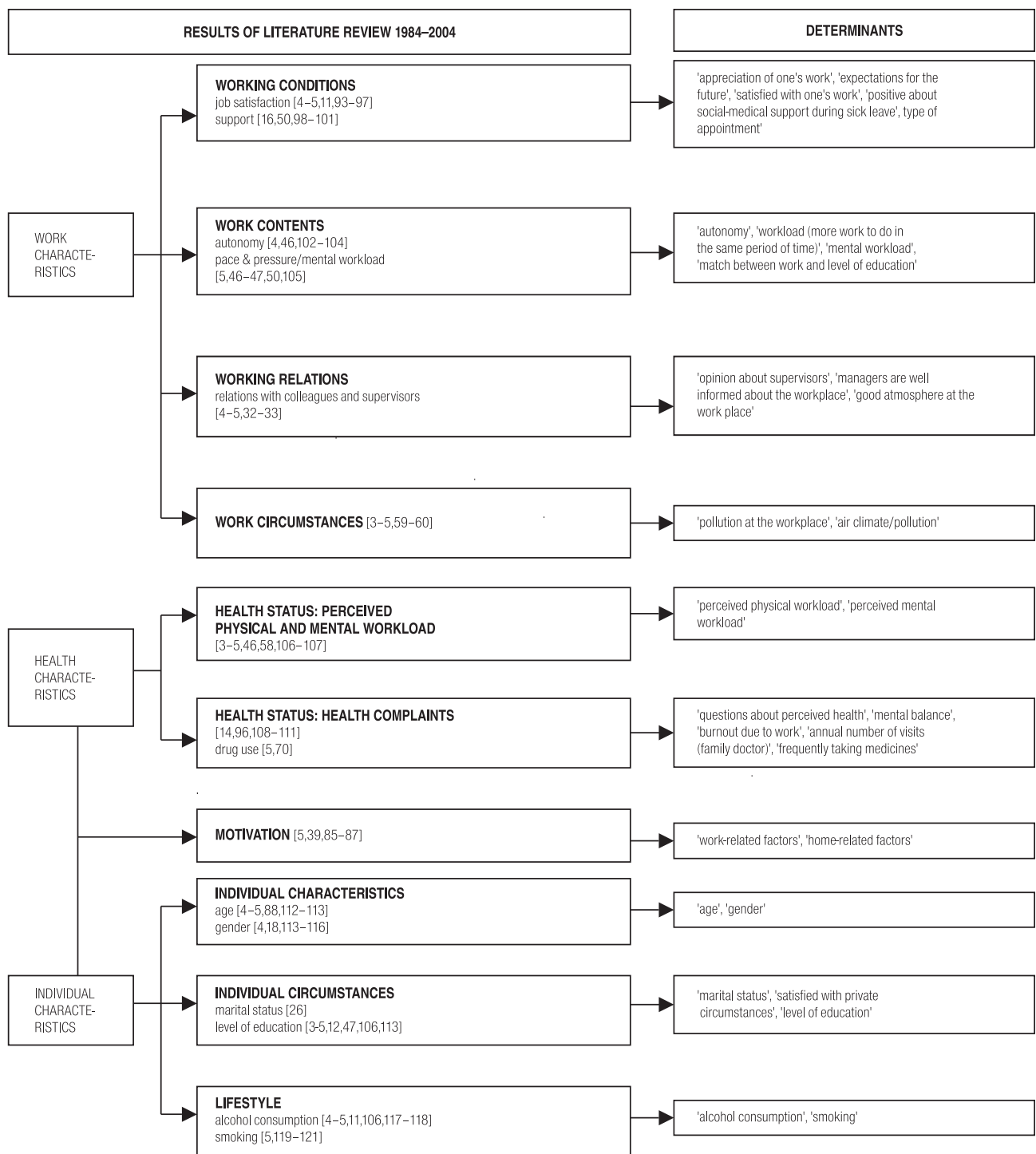


Fig. 1. Results of literature review on determinants of sick leave frequency: 1984–2004.

of health care (waiting periods before effective treatment) [2].

A lower socioeconomic status or a longer history of employment is associated with longer periods of sick leave [5,47,88–89], as is frequently the case during the socioeconomic

transition [90]. Programs to improve workers' health are important [91–92]. The determinants of the employment conditions are the prominent factors that affect the sick leave duration [4–5,26,31]. As shown by the results of this literature review (Fig. 2), a substantial number of determinants



**Fig. 2.** Results of literature review on determinants of sick leave duration: 1984–2004.

have influence on the duration of sick leave. For the direction of the effect of these determinants see Table 1.

Figures 1 and 2 present a global insight into how a certain number of determinants apparently play a role not only in the frequency but also in the duration of sick leave.

The finding that similar determinants can influence both the sick leave frequency and duration derives from earlier Dutch studies, like those of Nijhuis & Soeters [3], Smulders [4], and Grosfeld [5]; however, the direction of this influence has not always been consistent.



## DISCUSSION

To get insight into the various determinants of the sick leave frequency and duration over the period of 1984–2004, a literature review was performed. The aim was to identify relevant sick leave-related determinants and not to evaluate the magnitude of the effect of those determinants. In future studies, the relative effect of the determinants should also be taken into consideration.

As shown by the results of the literature review, the determinants that had influence on the sick leave frequency (Fig. 1) were found to be related to the atmosphere at the workplace, personal well-being and individual factors. This explains the difference in comparison with the data regarding the determinants of sick leave duration (Fig. 2) where the results were classified as work, health and individual characteristics.

## CONCLUSION

After reviewing the literature, we concluded that in the period of 1984–2004, the sick leave frequency and duration were influenced by a broad range of similar determinants. The determinants related to both the study parameters were mentioned in a highly consistent pattern. This conclusion was based on the finding that during the years 1984–2004, the studies on sick leave frequency and duration were apparently focused on similar determinants. Furthermore, we concluded that in the research on sick leave, a substantial number of comparable determinants were found to have a similar influence on the frequency of sick leave as they had on the duration.

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